

Remarks/Arguments:

By this Amendment, Applicants have amended claims 1-3. Claims 1-14 are pending.

Claim Rejection Under Section 103

Claims 1-14 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Zhang in view of Wang. By this Amendment, Applicants respectfully traverse the Section 103(a) rejection.

Claim 1 is an independent claim to which claims 2-14 depend either directly or indirectly. Claim 1 is directed to a digital transmitter-receiver including the following elements:

- a receiving unit for receiving data transmitted in accordance with a first transmission protocol,
- a transcoder for converting a received data to data in accordance with a second transmission protocol, and
- a transmitting unit for transmitting output data from the transcoder to a terminal apparatus,
- **wherein the transmitting unit monitors a transmission state to the terminal apparatus and feeds back monitoring results to inform the transducer of the transmission state, and the transducer, based on the feedback transmission state, changes and outputs data rate of the digital data to adapt to the transmission state.**

Applicants respectfully submit that the digital transmitter-receiver defined by claim 1 is patentably distinguished from the Zhang and Wang Patents at least based on the requirement that the transmitting unit monitors a transmission state to the terminal apparatus and feeds back monitoring results to inform the transcoder of the transmission state, and the transcoder, based on the feedback transmission state, changes and outputs the data rate of the digital data to adapt to the transmission state (hereinafter generally referred to as the "Transmission State Feature" of Applicants claimed invention). Simply put, the Transmission State Feature is neither taught nor suggested in the Zhang and Wang Patents.

The Zhang Patent in general refers to a system for transcoding multiple channels of compressed video streams using a self contained data unit, such as an autonomous frame. The system of Zhang includes an autonomous frame processing unit having an autonomous frame generator and an autonomous frame recorder. The autonomous frame generator receives video data and divides it into a series of autonomous frames. Each autonomous frame, according to Zhang, preferably includes 1) a frame header including all header information from the original video data plus enough additional information to allow the frame to be recorded using predefined autonomous frame structure, and 2) a frame payload including the original video data information. The autonomous frame recorder processes the autonomous frames including extracting processing parameters, extracting the video data and setting up or initializing the recorder to process the extracted video data. The autonomous frame recorder also includes a parser coupled to an initialization unit and a recorder. But no where in the Zhang Patent is there any teaching or suggestion of the Transmission State Feature of Applicants claimed invention.

The Wang Patent in general concerns an apparatus for transcoding digital video data, for example, at the headend of a cable or satellite television network. A generic multi-functional transcoder architecture has a "post-pre-processing engine" that provides a number of processing functions for implementing desired format conversions according to a user selection signal or an automatically generated selection signal. A processing functions can change frame size, frame rate, color space sampling format, interlaced or progressive scan format, resolution, and provide noise/deblocking filtering. But no where in the Wang Patent is there any teaching or suggestion of the Transmission State Feature of Applicants claimed invention.

Applicants have amended claim 1 to more clearly set forth the Transmission State Feature. The Office Action in rejecting Applicants claimed invention makes the following statement with respect to Applicants originally filed claim 1 relative to changes in the data rate of the digital data:

While Zhang is not specific as to how his transducer [is] instructed to change data outputs according to the transmission channel, he does teach that the main reason for transcoding is to match data rates of incoming streams with output streams. He further teaches that the transcoding can be done at various layers see figure 5. Furthermore Wang PN 6434197 clearly teaches that the output rate must be controlled and normally is at the output using some form of rate controller see column 5 lines 37-45.

See pages 2-3 of the Office Action. From this statement of the Office Action it appears that the Examiner agrees that the Zhang and Wang Patents do not

specifically teach or suggest the requirement of the transcoder changing the output data rate of the digital data based on the transmission state. Applicants, however, have made it clearer (by amendment) that it is the use of feedback monitoring by which the terminal apparatus is informed by the transducer of the transmission state and that it is based on the "feedback transmission state" that the transducer changes and outputs a data rate of the digital data to adapt to the transmission state. Thus the Transmission State Feature is itself not addressed in the above quoted Office Action remarks. Nonetheless, it is Applicants position that the quoted section of the Office Action does not with specificity evidence any teaching of such feature by either the Zhang or Wang Patents. The Office Action merely bases its rejection on a broadly stated concept found in either the Zhang or Wang Patents. It is Applicants position that but for Applicants claimed invention, one skilled in the art would not consider the Transmission State Feature of Applicants claim 1. Thus, the above quoted statement of the Office Action is nothing more than hindsight reconstruction of Applicants claimed invention, which is improper.

The Office Action refers to Figure 5 of the Zhang Patent as teaching a transcoder which changes and outputs data rate of the digital data based on the transmission rate. But Applicants respectfully disagree on this point. Figure 5 shows various possibilities of different types of recording for the recorder 408 of Figure 4. But while the Office Action refers to Figure 5 of the Zhang Patent in support of its rejection, Applicants note that nowhere in the specification of the Zhang Patent with respect to the discussion of Figure 5 (column 12, line 29, to column 13, line 27) is there any teaching or suggestion of the Transmission State Feature of Applicants claimed invention. Applicants further contend that this deficiency of the Zhang Patent is not rectified by any teaching in the Wang Patent. In particular, any discussion in

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discussion in the Wang Patent of the rate control function 360 does not describe or suggest the specific Transmission State Feature defined in Applicant's claim 1. Thus, it is Applicants position that claim 1, as well as dependent claims 2-14 are patentably distinguished from the Zhang and Wang Patents at least based on the Transmission State Feature. Applicants therefore request that the Section 103(a) rejection direct to claims 1-14 be withdrawn.

In view of the forgoing remarks and amendments, Applicants respectfully submit that claims 1-14 are in condition for allowance. Reconsideration and allowance of all pending claims are respectfully requested.

Respectfully submitted,



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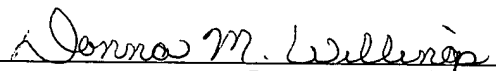
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